AMENDMENT TO THE CLAIMS

The listing of the claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS

Please amend the claims as follows:

1. (Previously Amended) A method of wirelessly transmitting a multi-carrier communication signal between a base station and a plurality of users, the method comprising:

   determining a transmission link quality between a user and the base station;

   assigning a class type to the user based upon the transmission link quality; and

   adjusting a number of sub-carriers comprising the multi-carrier communication signal and one or more of a number of timeslots, modulation rate, coding rate and transmit power allocated to select sub-carrier(s) of the one or more sub-carriers comprising the multi-carrier communication signal for transmission with the user based upon the class type.

2. (Original) The method of claim 1, wherein the channelization mode determines a quantity of frequency spectrum allocated for transmission between the user and the base station.

3. (Original) The method of claim 2, wherein the quantity of frequency spectrum allocated is for the duration of a particular transmission time slot.

4. (Original) The method of claim 2, wherein the allocated frequency spectrum comprises contiguous frequency slots.

5. (Original) The method of claim 4, wherein the frequency slots comprise multi-carrier signals.

6. (Original) The method of claim 4, wherein the frequency slots comprise single carrier signals.

7. (Original) The method of claim 2, wherein the allocated frequency spectrum comprises non-contiguous frequency slots.

8. (Original) The method of claim 7, wherein the frequency slots comprise multi-carrier signals.

9. (Original) The method of claim 7, wherein the frequency slots comprise single carrier signals.

10. (Original) The method of claim 1, further comprising:

communicating the class type of the user to a MAC scheduler;

the MAC scheduler scheduling all transmission between the base station and the user by assigning transmission frequency slots and transmission time slots to the user, wherein a

number of frequency slots assigned to the user per time slot is based on the class type of the user.

11. (Original) The method of claim 10, wherein the number of frequency slots assigned to the user per time slot is further based on real-time system traffic load between the base station and the plurality of users.

12. (Original) The method of claim 10, wherein the number of frequency slots assigned to the user per time slot is further based on a quality of service associated with the user.

13. (Original) The method of claim 10, wherein the frequency slots comprise multi-carrier signals.

14. (Original) The method of claim 10, wherein the frequency slots comprise single carrier signals.

15. (Original) The method of claim 10, wherein the frequency slots are contiguous.

16. (Original) The method of claim 10, wherein the frequency slots are not contiguous.

17. (Original) The method of claim 10, wherein the frequency slots are interleaved.

18. (Original) The method of claim 10, wherein a maximum possible number of frequency slots assigned to the user per time slot is based on the class type of the user.

19. (Original) The method of claim 18, wherein the maximum possible number of frequency slots assigned to the user per time slot is further based on real-time system traffic load between the base station and the plurality of users.

20. (Original) The method of claim 18, wherein the maximum possible number of frequency slots assigned to the user per time slot is further based on a quality of service associated with the user.

21. (Original) The method of claim 10, wherein predetermined frequency slots within predetermined time slots are allocated for transmission with users having a particular class type.

22. (Original) The method of claim 10, wherein the class type of each of the users determines a priority in the MAC scheduler assignment of predefined transmission frequency slots and transmission time slots to the users.

23. (Original) The method of claim 1, wherein the transmission link quality between the user and the base station is determined dynamically.

24. (Original) The method of claim 1, wherein the transmission link quality between the user and the base station is determined periodically.

25. (Original) The method of claim 1, wherein the transmission link quality between the user and the base station is determined when the user is powered up.

26. (Original) The method of claim 1, wherein determining a transmission quality comprises estimating an SNR of signal transmission between the base station and the user.

27. (Original) The method of claim 1, wherein determining a transmission quality comprises estimating a PER of data transmitted between the base station and the user.

28. (Original) The method of claim 10, wherein each of the plurality of users are assigned a class type, and

the MAC assigns frequency slots to users having a common class type according to a round robin scheduling scheme.

29. (Original) The method of claim 10, wherein each of the plurality of users are assigned a class type, and

the MAC assigns frequency slots to users having different class types according to a round robin scheduling scheme.

30. (Previously Amended) A method of wirelessly transmitting a multi-carrier wireless communication signal from a base station to one or more of a plurality of users, the method comprising:

transmitting information from the base station to a subscriber unit;

receiving from the subscriber an indication of transmission link quality;

assigning a class type to the subscriber unit based upon the transmission link quality; and

setting a number of sub-carriers to comprise the multi-carrier wireless communication channel and one or more of a number of timeslots, modulation rate, coding rate and transmit power allocated to select sub-carriers of the one or more sub-carriers of the multi-carrier communication signal for transmission to the subscriber unit based upon the class type.

31. (Previously Amended) A system for wirelessly transmitting a multi-carrier wireless communication signal between a base station and a plurality of users, the system comprising:

means for determining a transmission link quality between a user and the base station;

means for assigning a class type to the user based upon the transmission link quality; and

means for adjusting a number of sub-carriers allocated to comprise the multi-carrier wireless communication signal and one or more of a number of timeslots, modulation rate, coding rate and transmit power allocated to select sub-carrier(s) of the one or more sub-carriers of the multi-carrier communication signal for transmission with the user based upon the class type.

REMARKS

These remarks are submitted in reply to the Office Action dated November 02, 2006. Applicant respectfully requests reconsideration and further examination of the patent application under 37 C.F.R. § 1.111.

Claims 1- 31 remain in the present application. Based on the remarks herein, Applicant respectfully requests that the Examiner reconsider and withdraw all outstanding rejections.

I. Claim 1 – 3, 23 – 24, 26 – 27 and 30 – 31 were rejected under 35 U.S.C. 103(a) as being unpatentable over Ward et al. (USP 5,701,294) in view of Tong et al. (US Publication 2001/0038630 Al).

Applicant respectfully submits that the §103 rejection of claims 1 and 31 based on Ward et al. in combination with Tong et al. is in error. As an initial matter, the Office action fails to identify a legally cognizable suggestion for combining Ward et al. and Tong et al. In this regard, the Office action states: "Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the wireless communication system of Ward with the teaching of Tong in selecting carrier(s) for transmission between a base station and mobile users in accordance based on the classes of services and data rates required such that Ward will transmit the multicarrier communication signal and select sub-carrier(s) of the one or more sub-carriers comprising the multi-carrier communication signal for transmission with the user based upon the class type. The motivation to do so is to optimize the operation of the cell sector serviced by the carriers by meeting the minimum grades of service for the users and maximizing the multicarrier throughput.

However, as a matter of law and fact, this is <u>not</u> a proper suggestion for combining Ward et al. and Tong et al.